

Demographic & Geographic Patterns of ADHD Prescriptions among Louisiana's Medicaid Children

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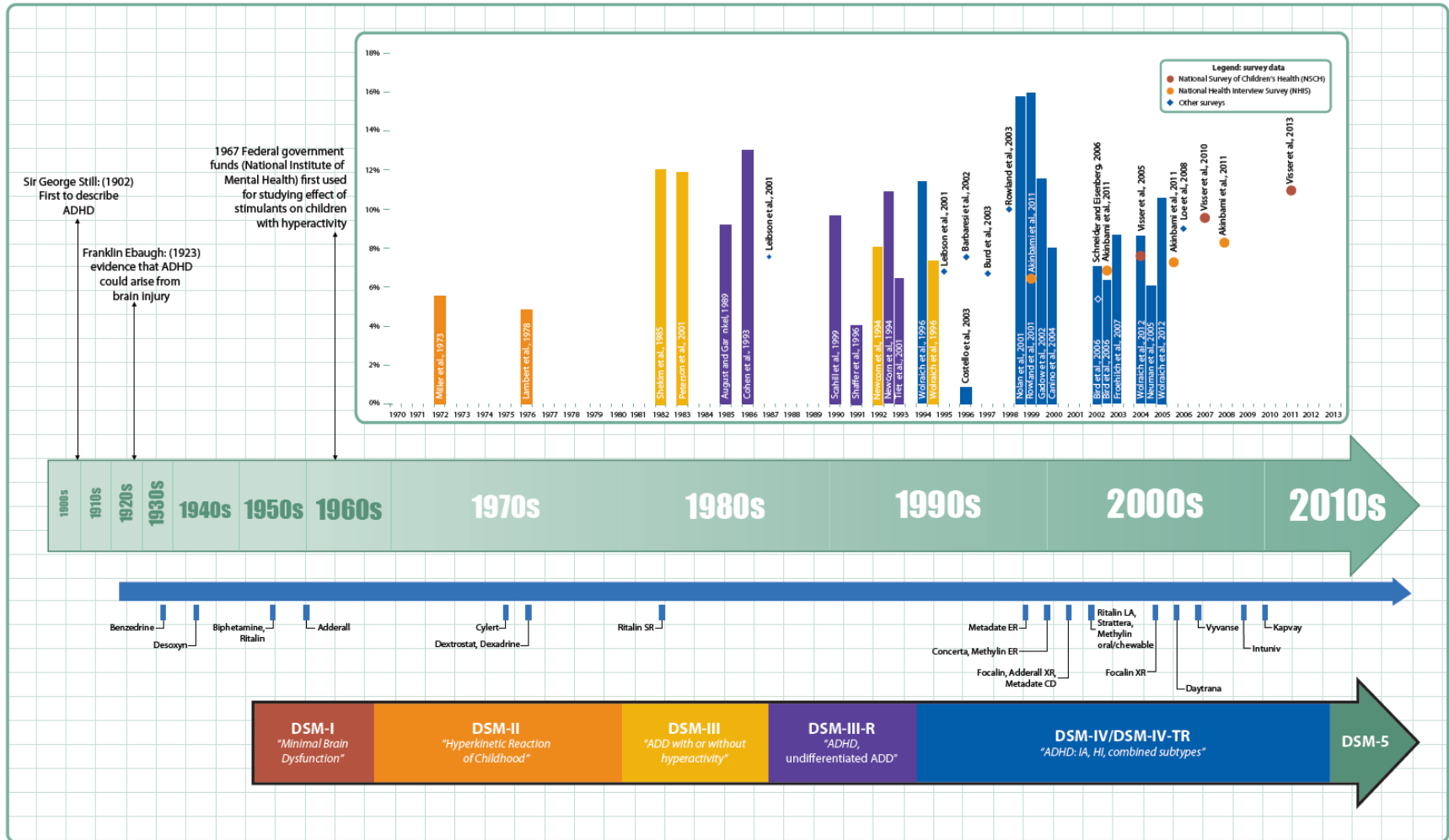
Prepared for the ADHD Symposium

December 9, 2014

Executive Summary

- A March-2014 study by Express Scripts of privately insured listed Louisiana as 2nd in the nation in ADHD “Medication Usage”.
- Among 4-17y.o., LA had the nation’s 3rd highest *current* ADHD rate in the U.S., 13.3% (2011; [CDC](#)).
- 64% of children ages 4 through 18 in LA were, at some point in 2013, enrolled in Medicaid.
 - 12.9% were prescribed an ADHD drug.
 - highest rates found in white male 10 year olds (35.8%).
 - The birth date cut-off for early entry into kindergarten is September 30th. Those born in September were 26% more likely to have an ADHD Rx than those born in October.
 - ADHD Rx Rates vary across geography. DHH has 9 Regions in Louisiana, Region 5 (Southwest) had a rate twice as high as Region 8 (Northeast), 19.7 vs. 9.8%.
 - Relative to the U.S. rate, Louisiana Medicaid is spending approximately \$30M medicating 30k more children.

Timeline of ADHD



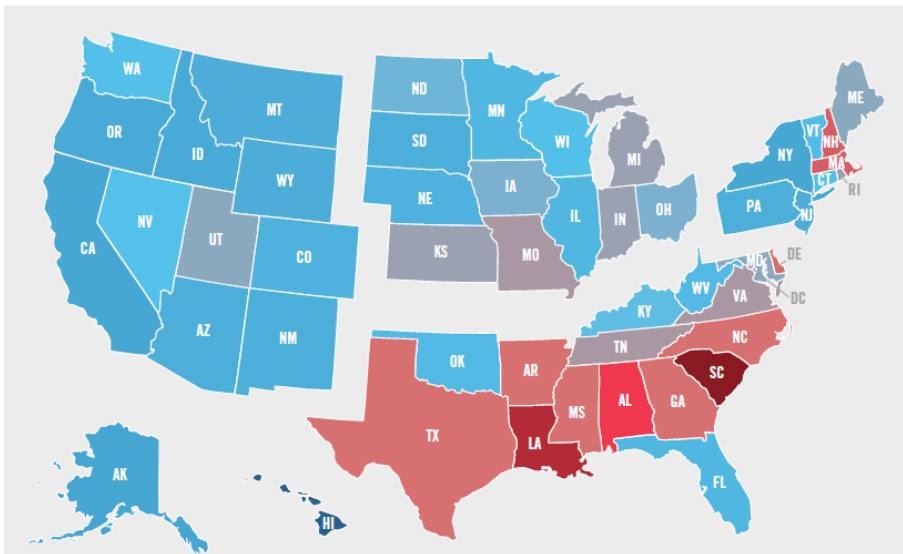
REPORT SUMMARY

This report contains the latest findings from research conducted by Express Scripts providing an in-depth analysis of the most current trends in the use of medications to treat Attention Deficit Hyperactivity Disorder (ADHD).

From an annual sample size of approximately 15 million **privately insured individuals ages 0 to 64**, the research examined the de-identified pharmacy claims of more than 400,000 individuals who filled at least one prescription for a medication indicated for the treatment of ADHD during the five-year study period. Prevalence, utilization and costs were evaluated from 2008 to 2012, including assessments of trends according to age, gender and geography. Because of the paucity of data on children under four years of age, only findings pertaining to those ages 4 to 64 are included in the report.

PREVALENCE OF ADHD MEDICATION USAGE

BY STATE & REGION 2012



KEY FINDINGS OF THE RESEARCH INCLUDE:

- Use of ADHD medications among Americans rose 35.5% from 2008 to 2012, increasing the number of privately insured individuals on these drug therapies to more than 4.8 million in 2012.
- **Boys ages 12 to 18 are the most prevalent users, with 9.3%** of that population on an ADHD drug in 2012, up from 7.9% in 2008.
- While the number of girls on ADHD medications is less than half that of boys, women outnumber men in their use of these drug therapies.
- Unlike males, whose numbers significantly decrease after age 18, younger women ages 19 to 25 have higher rates of medication use than girls 4 to 18 years old.
- In 2012, the highest concentration of ADHD medication use was found in the South, with South Carolina experiencing the highest prevalence of ADHD medication use: 5.0% overall and **14.1%** for 12 to 18 year old boys. The lowest rates were seen in the Western region of the U.S.
- Use of antipsychotic treatments among patients taking ADHD medication is substantially higher compared to non-ADHD medication users, especially in the age 4 to 11 category, where use of antipsychotics was 10 times higher than those not being treated for ADHD in 2012.
- Despite the high rate of antipsychotic use among those being treated for ADHD, Express Scripts data found that those numbers have actually declined among all age groups since 2009, reversing a significant upward trend that was identified in earlier research.
- Spending on ADHD medication rose 14.2% in 2012, the greatest increase seen among any traditional drug category; it is forecast to grow nearly 25% by 2015.¹

2012 PREVALENCE	
REGION	2012 PREVALENCE
MIDWEST	2.9%
NORTHEAST	2.6%
SOUTH	3.6%
WEST	2.2%

All Medicaid enrollment in CY2013
Geocoded (address to point on map)

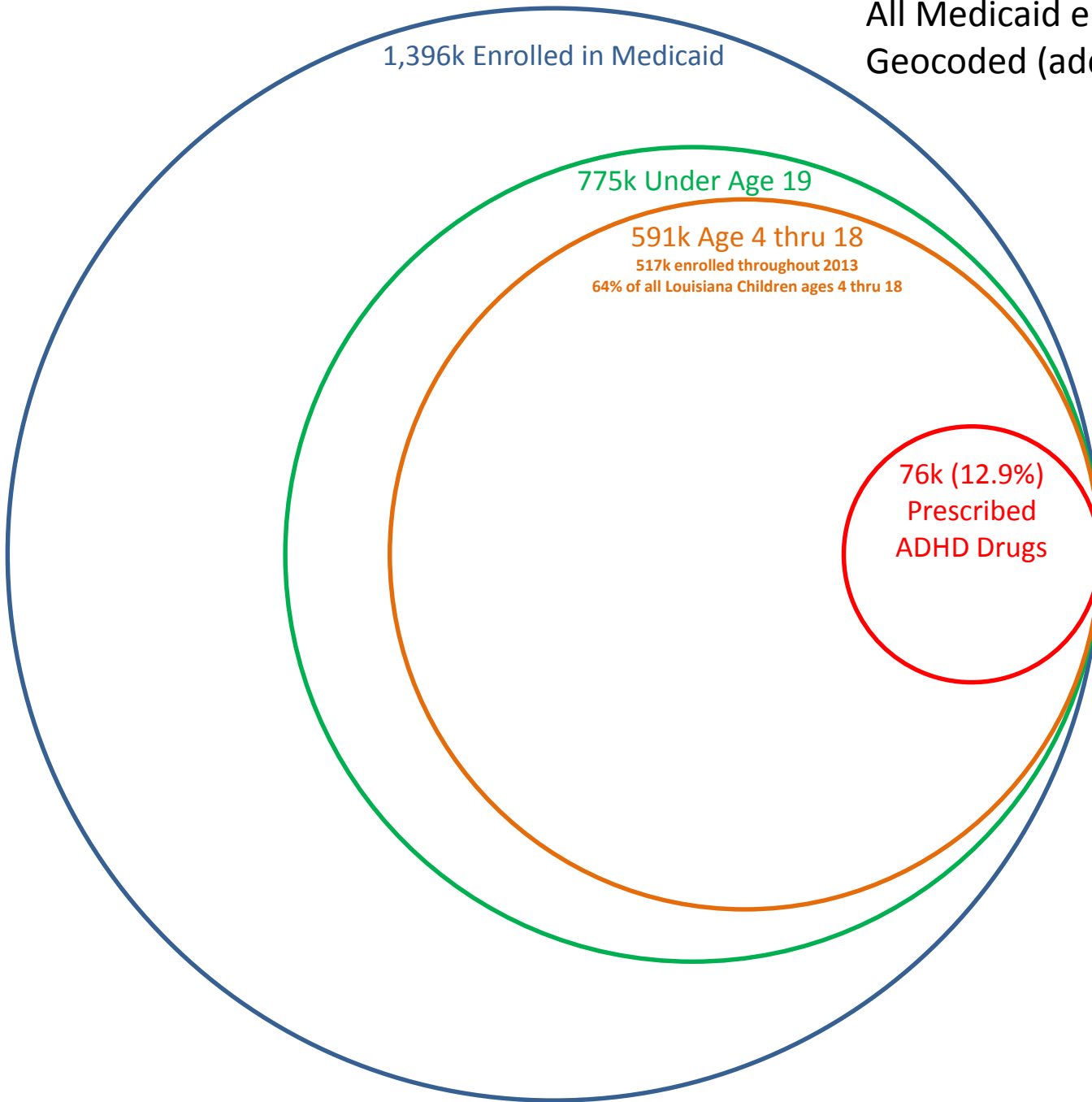
1,396k Enrolled in Medicaid

775k Under Age 19

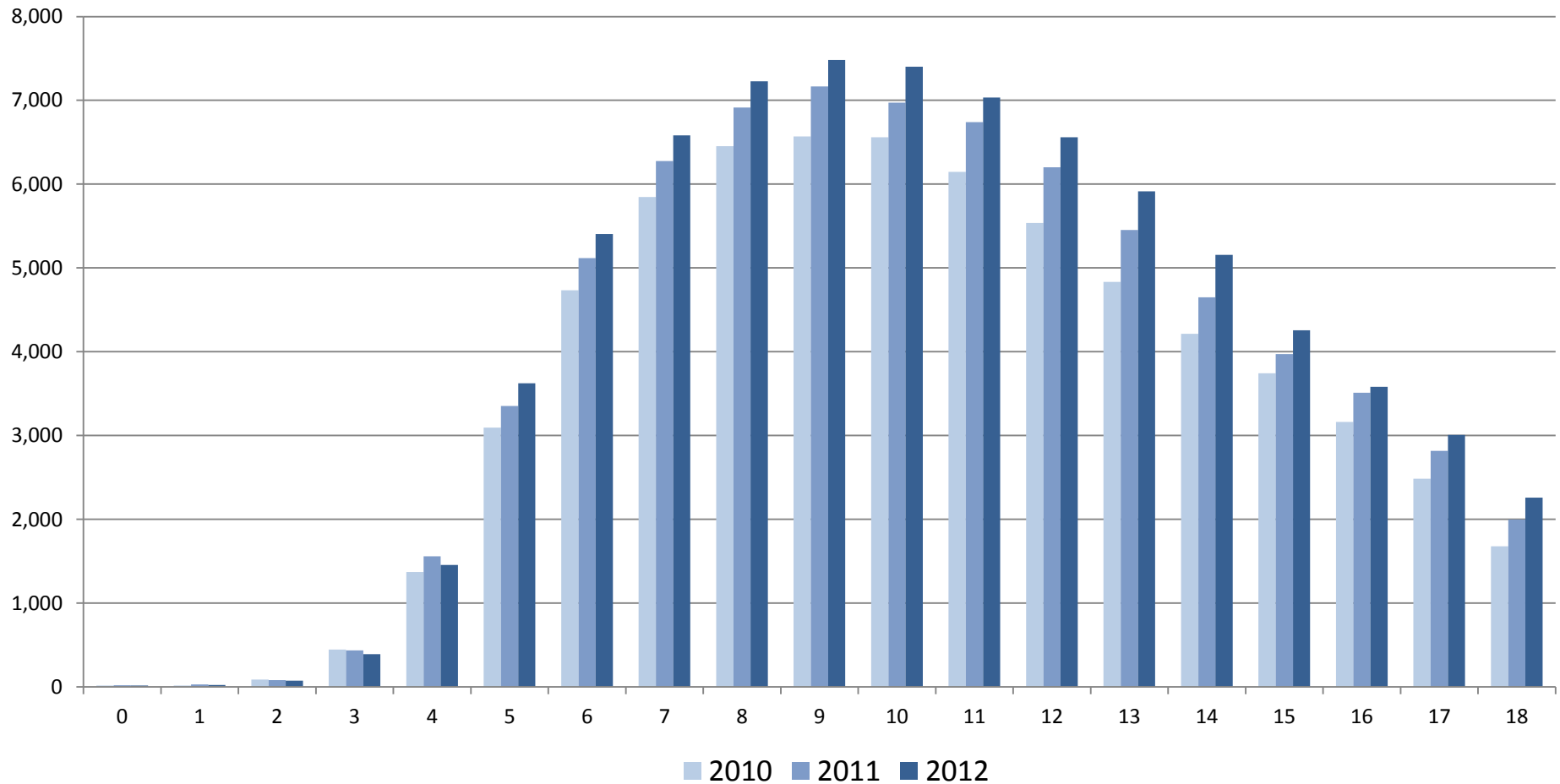
591k Age 4 thru 18

517k enrolled throughout 2013
64% of all Louisiana Children ages 4 thru 18

76k (12.9%)
Prescribed
ADHD Drugs

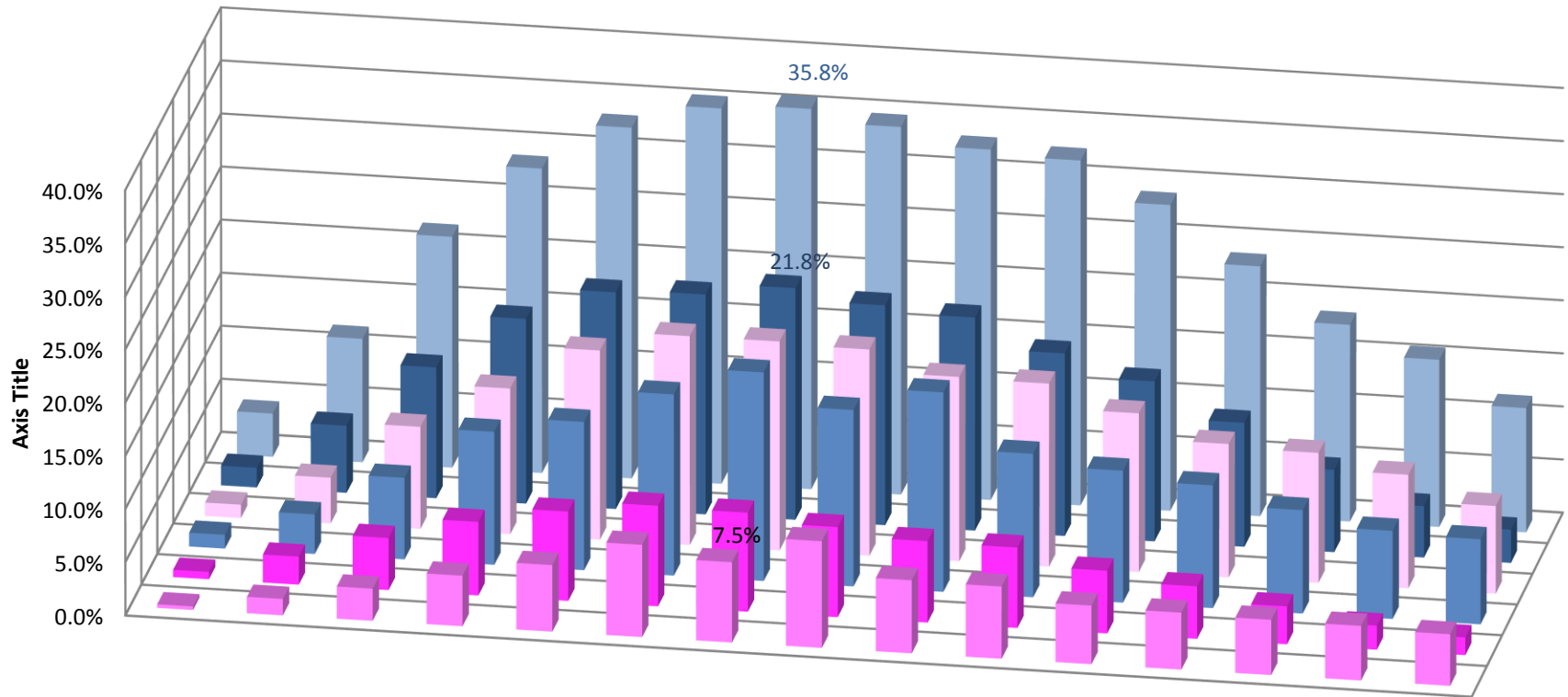


ADHD Prescribed Medicaid Recipients by Age (2010-2012)

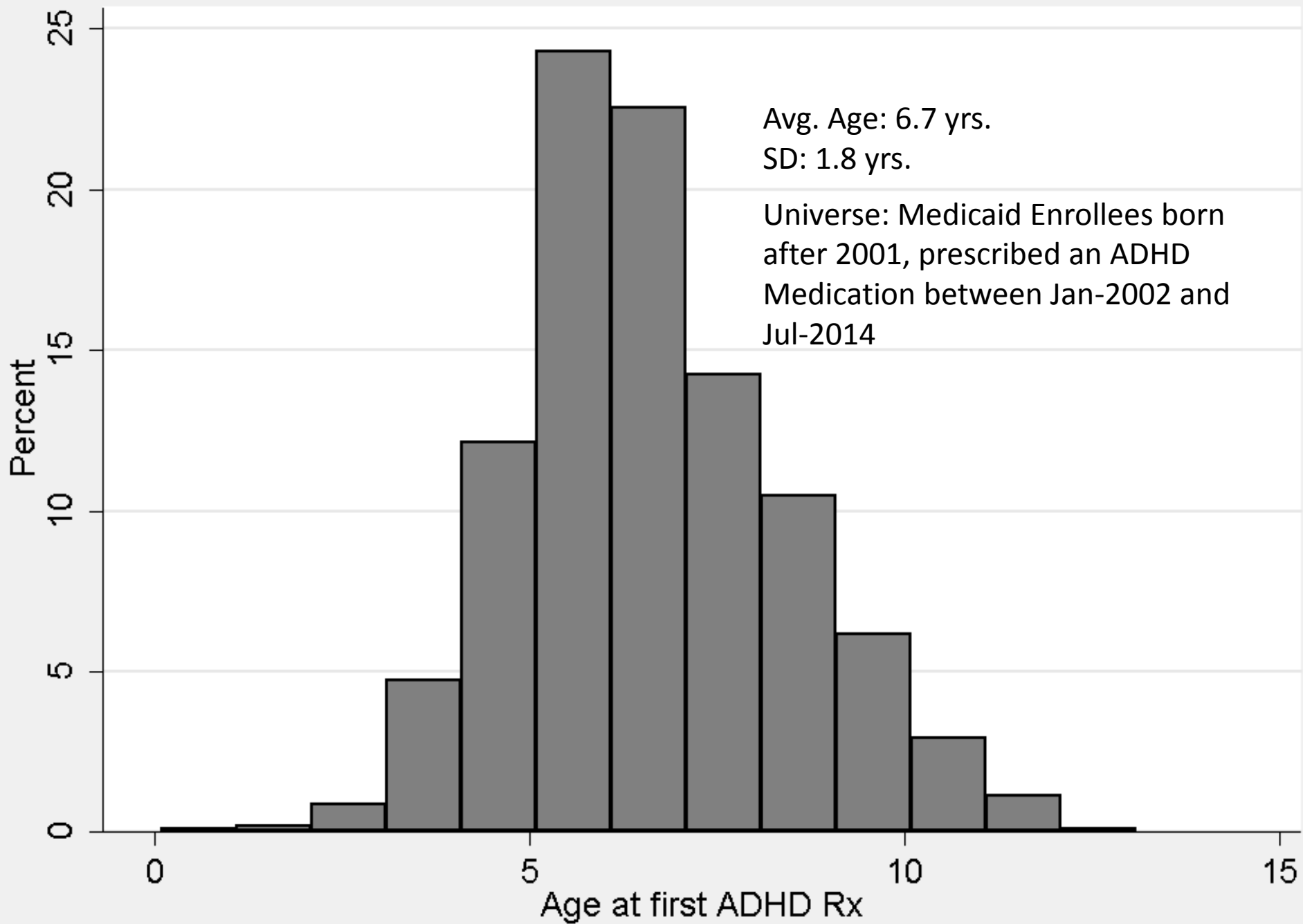


Medicaid: % ADHD Rx in CY2013

(Age as of 9/30/13)



	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Other Females	0.3%	1.5%	3.0%	4.7%	6.3%	8.7%	7.5%	10.0%	6.9%	6.8%	5.5%	5.3%	5.2%	5.1%	4.8%
Black Females	0.7%	2.6%	4.9%	6.9%	8.4%	9.5%	9.3%	8.5%	7.7%	7.6%	5.9%	4.9%	3.6%	2.3%	1.7%
Other Males	1.3%	3.7%	7.7%	12.5%	14.0%	17.1%	19.6%	16.6%	18.8%	13.5%	12.4%	11.6%	9.7%	8.3%	8.0%
White Females	1.3%	4.3%	9.6%	13.7%	17.8%	19.7%	19.7%	19.4%	17.4%	17.2%	14.9%	12.6%	12.2%	10.7%	8.2%
Black Males	1.8%	6.3%	12.3%	17.4%	20.4%	20.7%	21.8%	20.7%	20.1%	17.2%	15.1%	11.7%	7.8%	4.8%	3.1%
White Males	4.1%	11.6%	21.8%	28.7%	33.0%	35.4%	35.8%	34.6%	33.0%	32.5%	28.8%	23.5%	18.5%	15.7%	11.7%



2013 Medicaid ADHD Rx Rate by Age (on Sep 30, 2013) and Birth Month



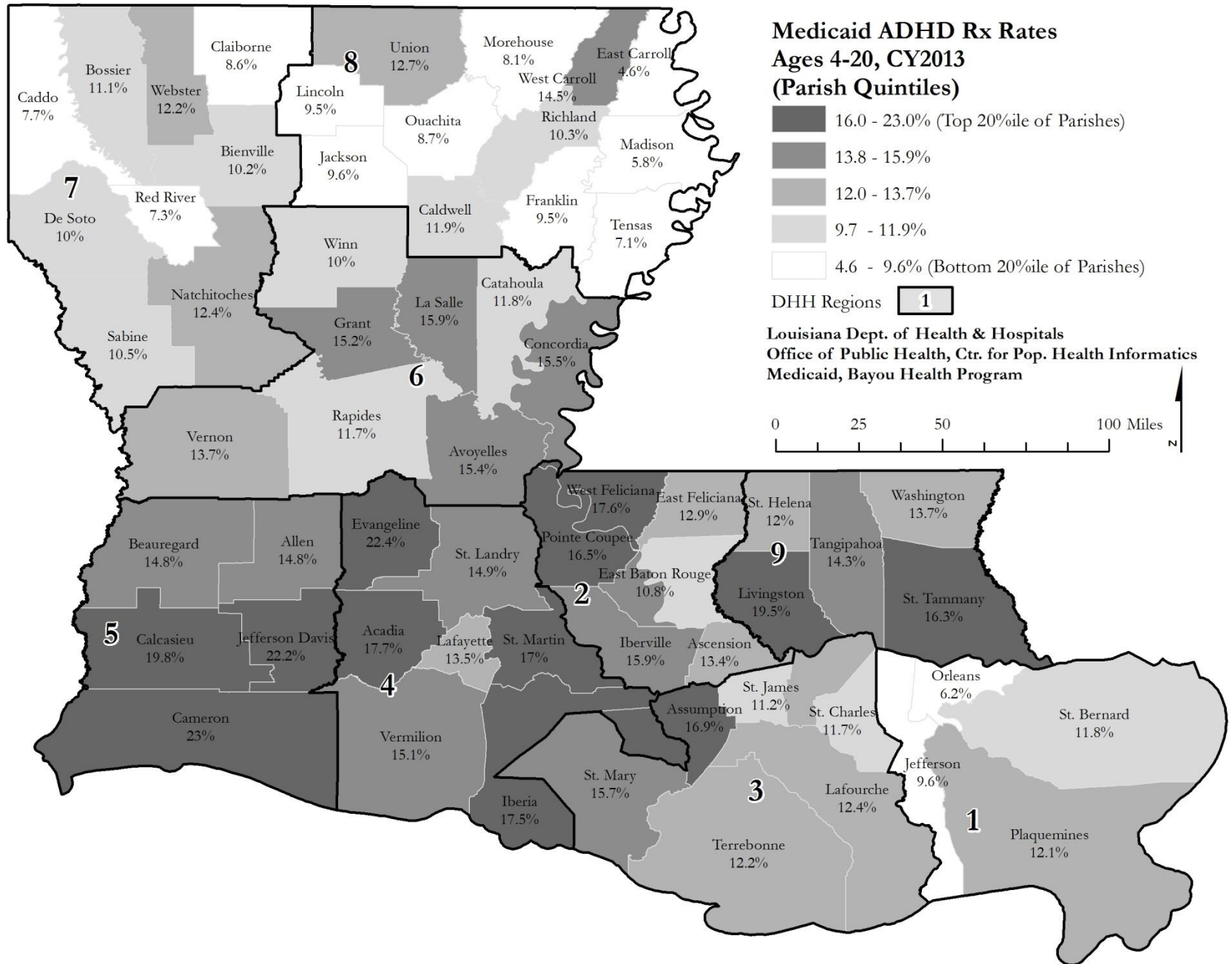
**Kindergarten
Cutoff Date:
Age 5 by Sep. 30th**

Medicaid ADHD Rx Rates Ages 4-20, CY2013 (Parish Quintiles)



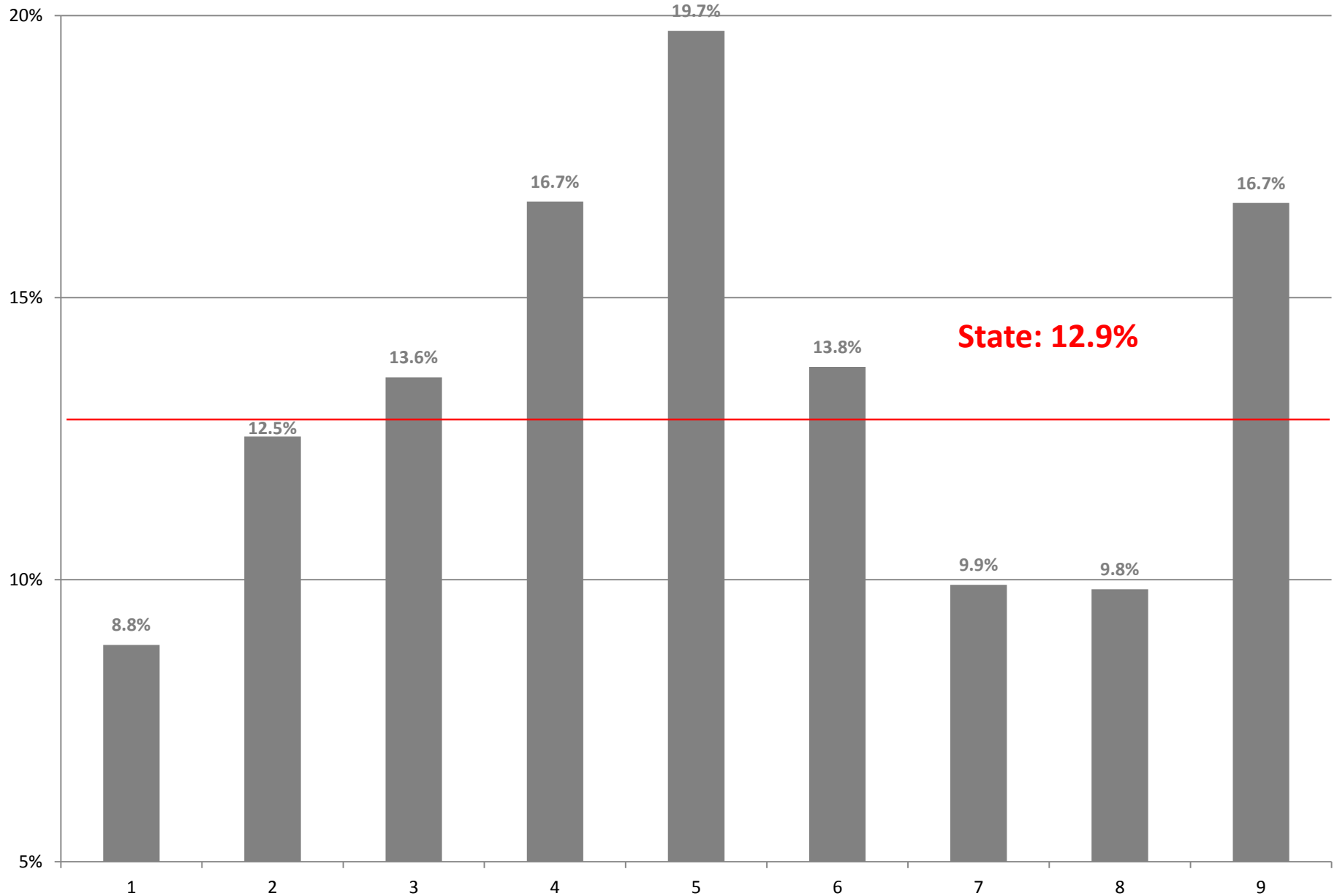
DHH Regions **1**

Louisiana Dept. of Health & Hospitals
Office of Public Health, Ctr. for Pop. Health Informatics
Medicaid, Bayou Health Program



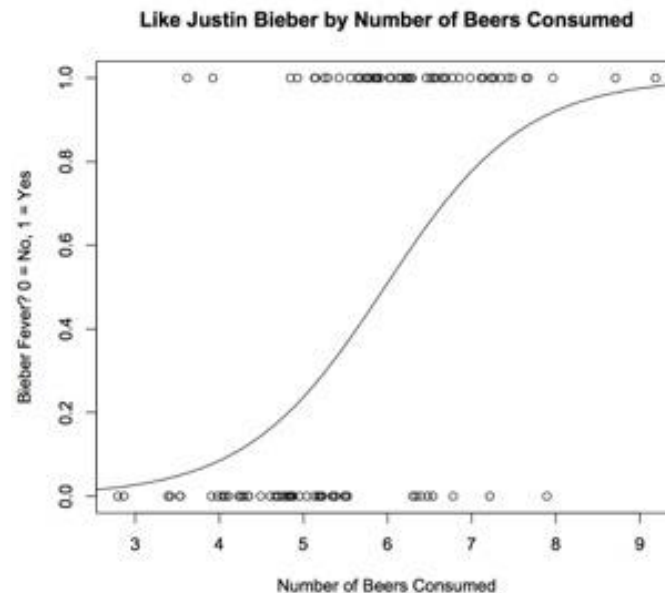
ADHD Rx Rates by DHH Region

(2013; ages 4 thru 18)



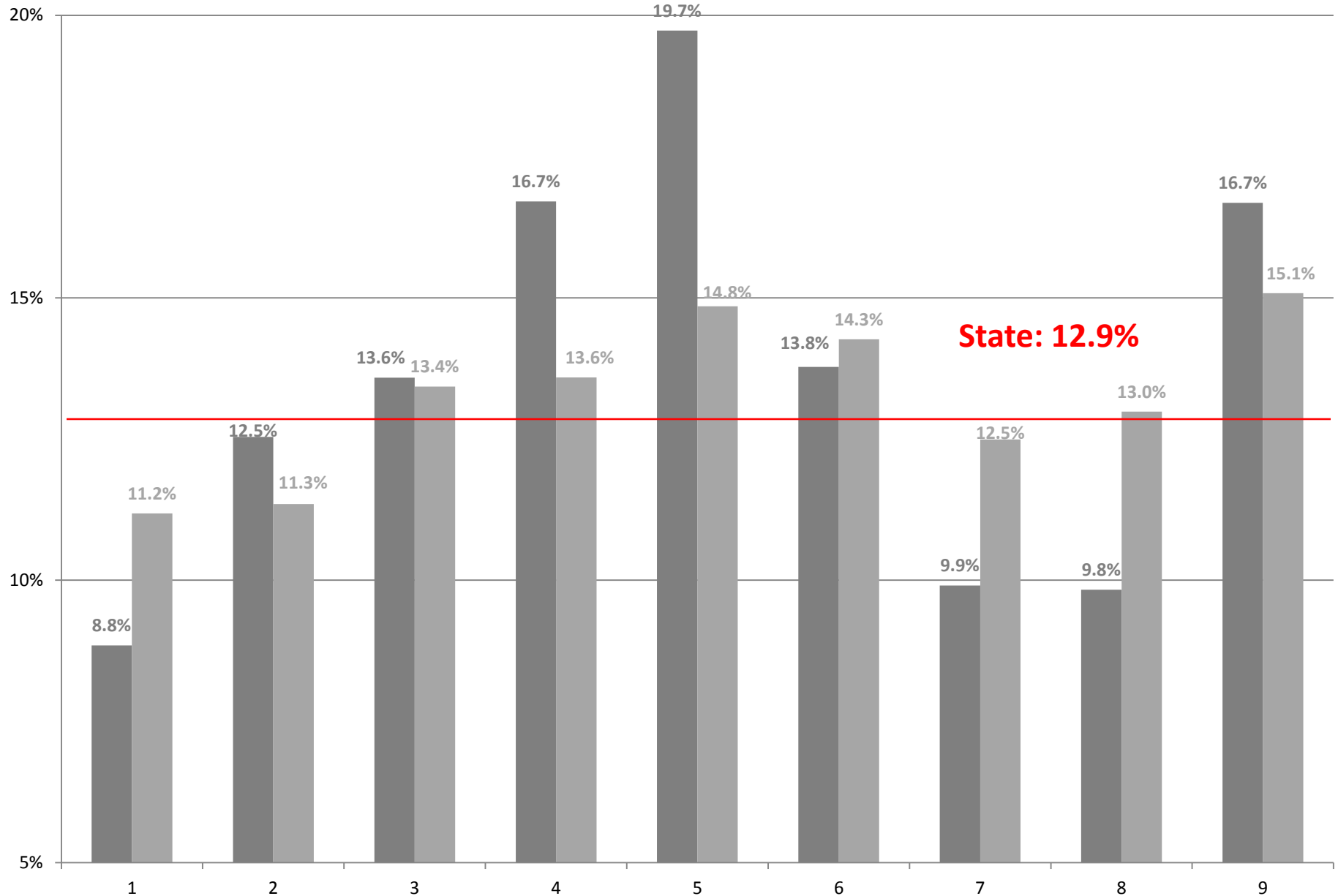
Probit

- What was the probability in 2013 that a child in Louisiana, on Medicaid, of a certain age (4 through 18), race (white, black, other) and gender would be prescribed medication for ADHD?
- Example of Probit:



ADHD Rx Rates, Actual & Predicted by DHH Region

(2013; ages 4 thru 18)



**Louisiana Department of
Health and Hospitals,
East Baton Rouge Parish**

**Population:
Medicaid Enrolled,
Under Age 21,
ADHD Drug Prescribed,
Actual - Predicted**

80 - 100%ile (15 - 133)

60 - 80%ile (2 - 14)

40 - 60%ile (-4 - 1)

20 - 40%ile (-12 - -5)

0 - 20%ile (-74 - -13)

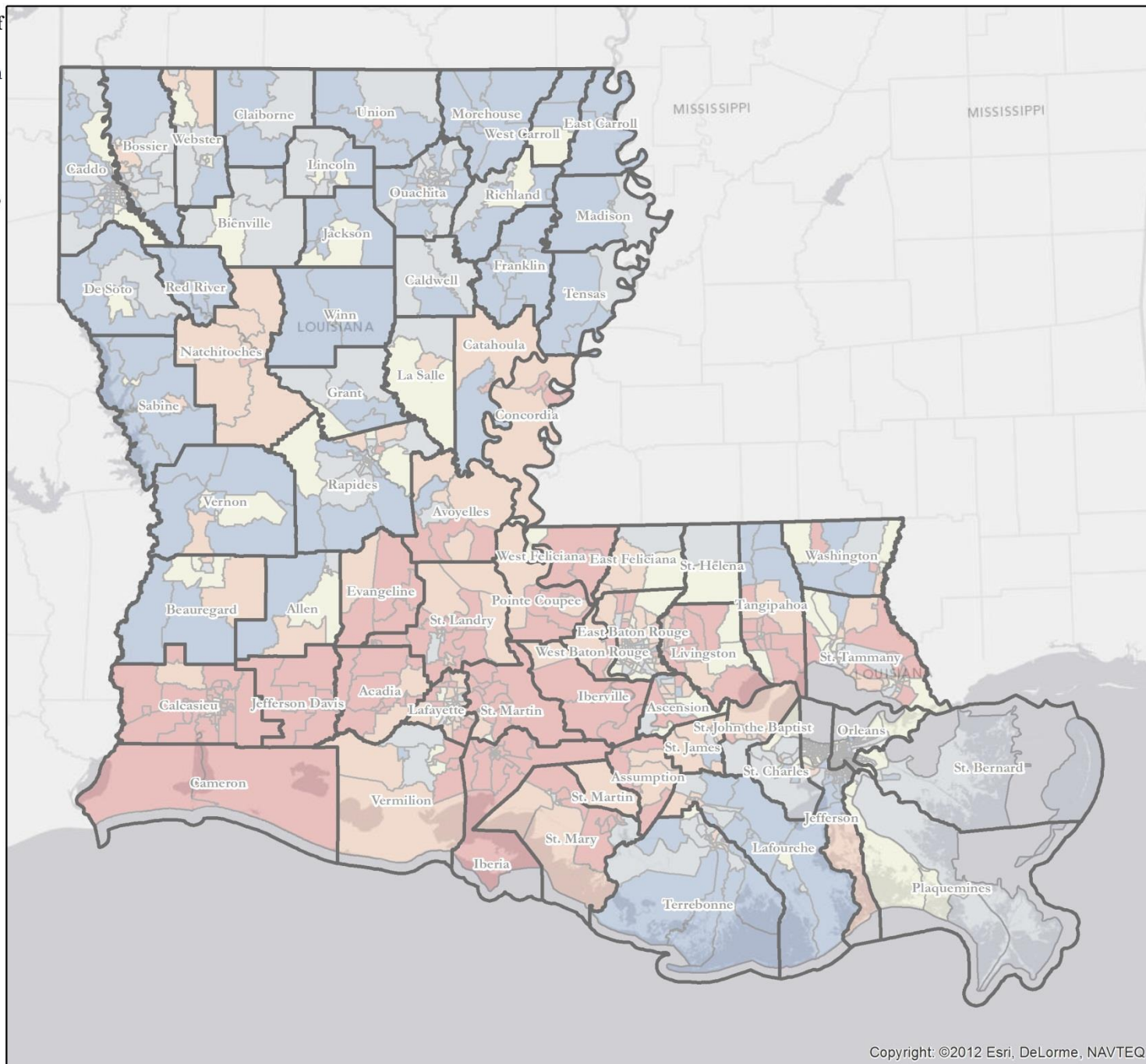
First and last quintiles labeled.

Prescription Data:
Medicaid CY2011

Enrollment Locations:
April 2012 MEDS Eligibility

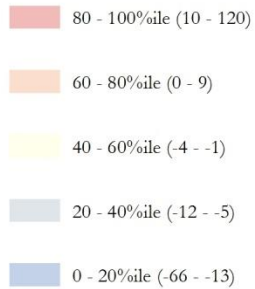
Boundaries:
U.S. Bureau of Census,
2010 Tracts

Basemap:
Esri, DeLorme, Navteq



**Louisiana Department of
Health and Hospitals,
Region 8 (Monroe)**

**Actual - State Normal:
ADD Drug Prescribed,
Medicaid Enrolled,
Under Age 21 Population**



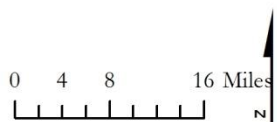
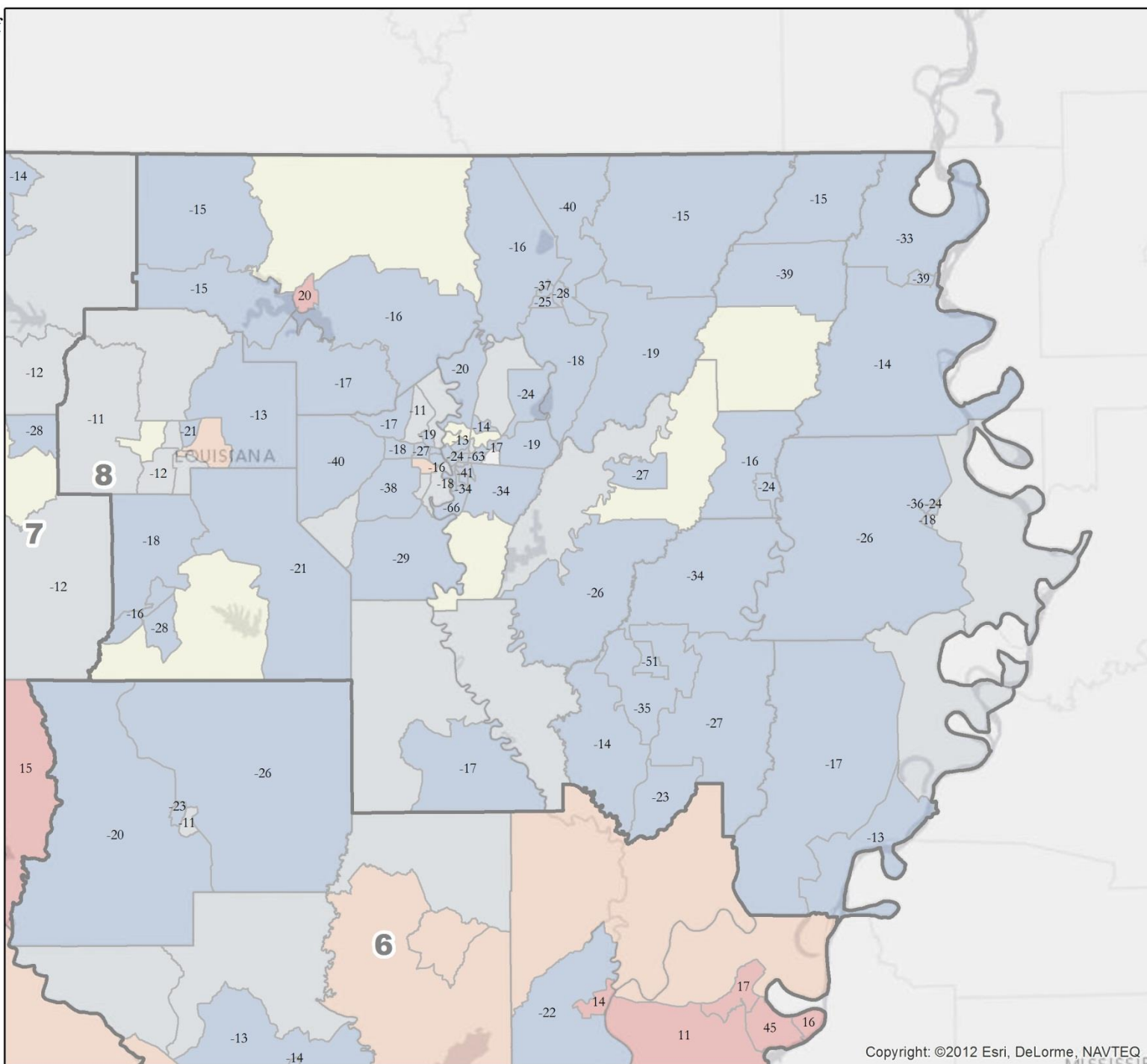
First and last quintiles labeled.

Prescription Data:
MDW CY2011

Enrollment Locations:
April 2012 MEDS Eligibility

Boundaries:
U.S. Bureau of Census,
2010 Tracts

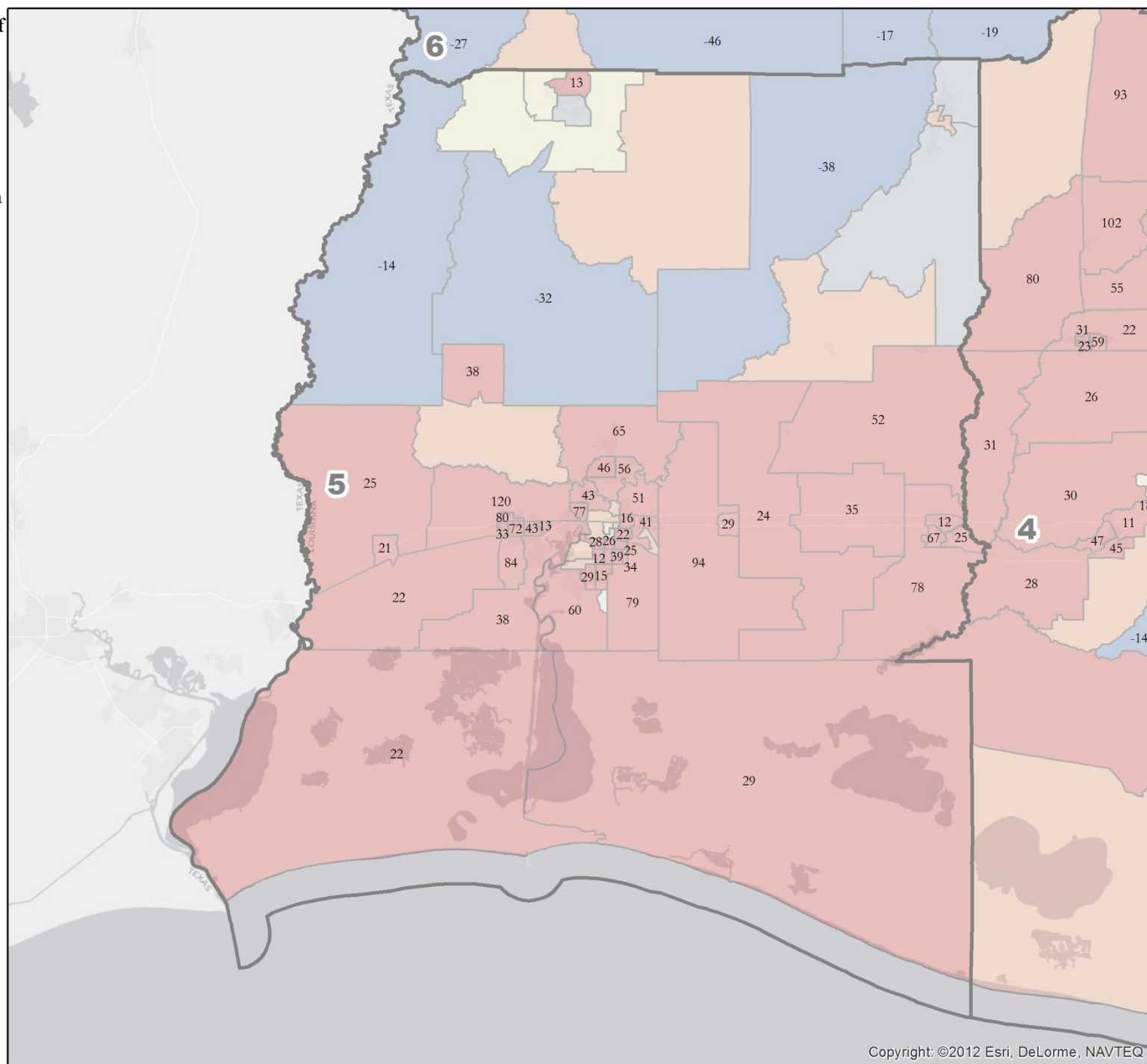
Basemap:
Esri, DeLorme, Navteq



**Actual - State Normal:
ADD Drug Prescribed,
Medicaid Enrolled,
Under Age 21 Population**

0 - 20% oil (-66 - -13)

Basemap:
Esri, DeLorme, Navteq



Louisiana Department of
Health and Hospitals,
East Baton Rouge Parish

Population:
Medicaid Enrolled,
Under Age 21,
ADD Drug Prescribed,
Actual - Predicted

80 - 100%ile (15 - 133)

60 - 80%ile (2 - 14)

40 - 60%ile (-4 - 1)

20 - 40%ile (-12 - -5)

0 - 20%ile (-74 - -13)

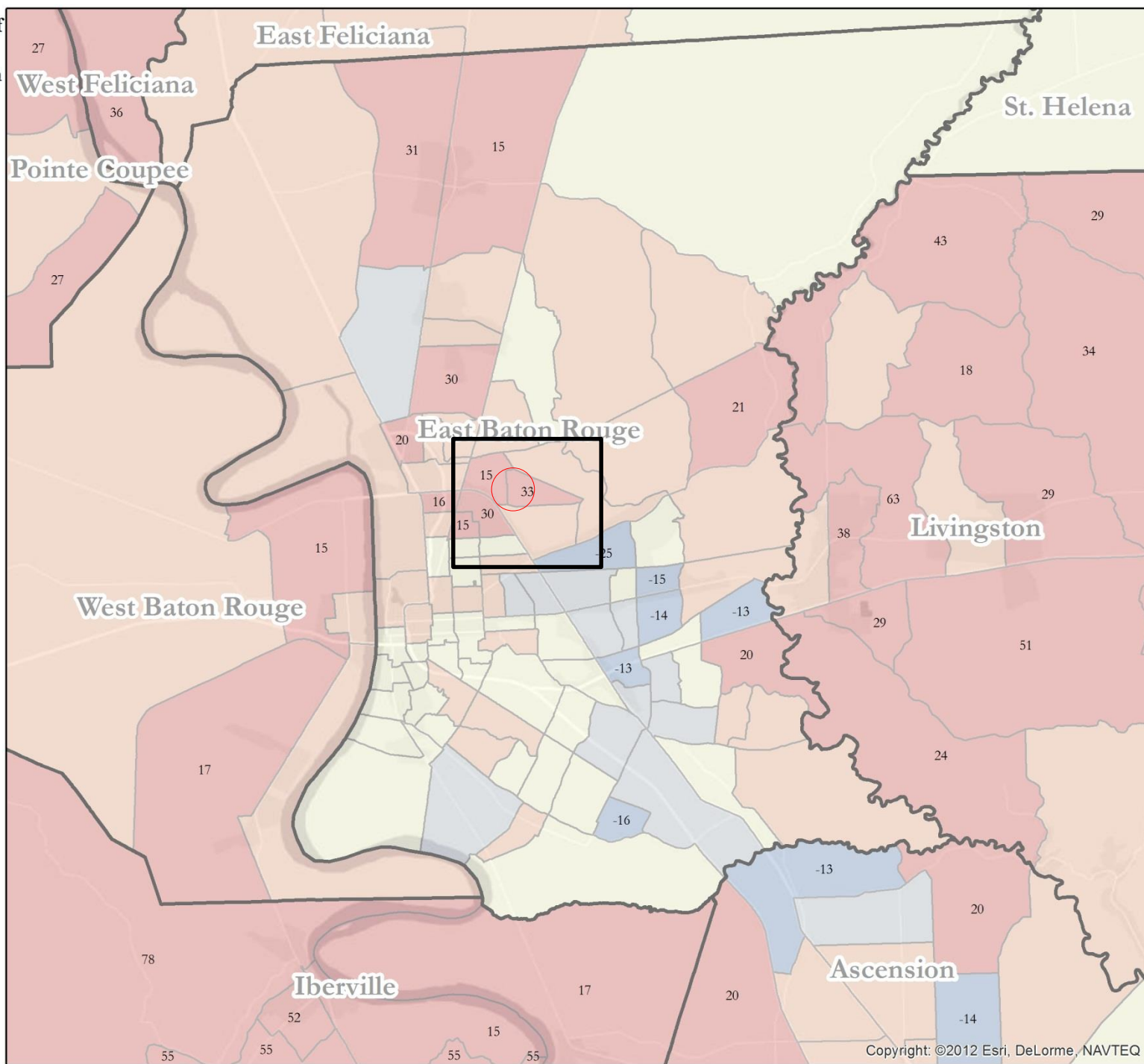
First and last quintiles labeled.

Prescription Data:
Medicaid CY2011

Enrollment Locations:
April 2012 MEDS Eligibility

Boundaries:
U.S. Bureau of Census,
2010 Tracts

Basemap:
Esri, DeLorme, Navteq



**Louisiana Department of
Health and Hospitals,
Vicinity of
N. Baton Rouge, LA**

**Population:
Medicaid Enrolled,
Under Age 21,
ADHD Drug Prescribed,
Actual - Predicted**



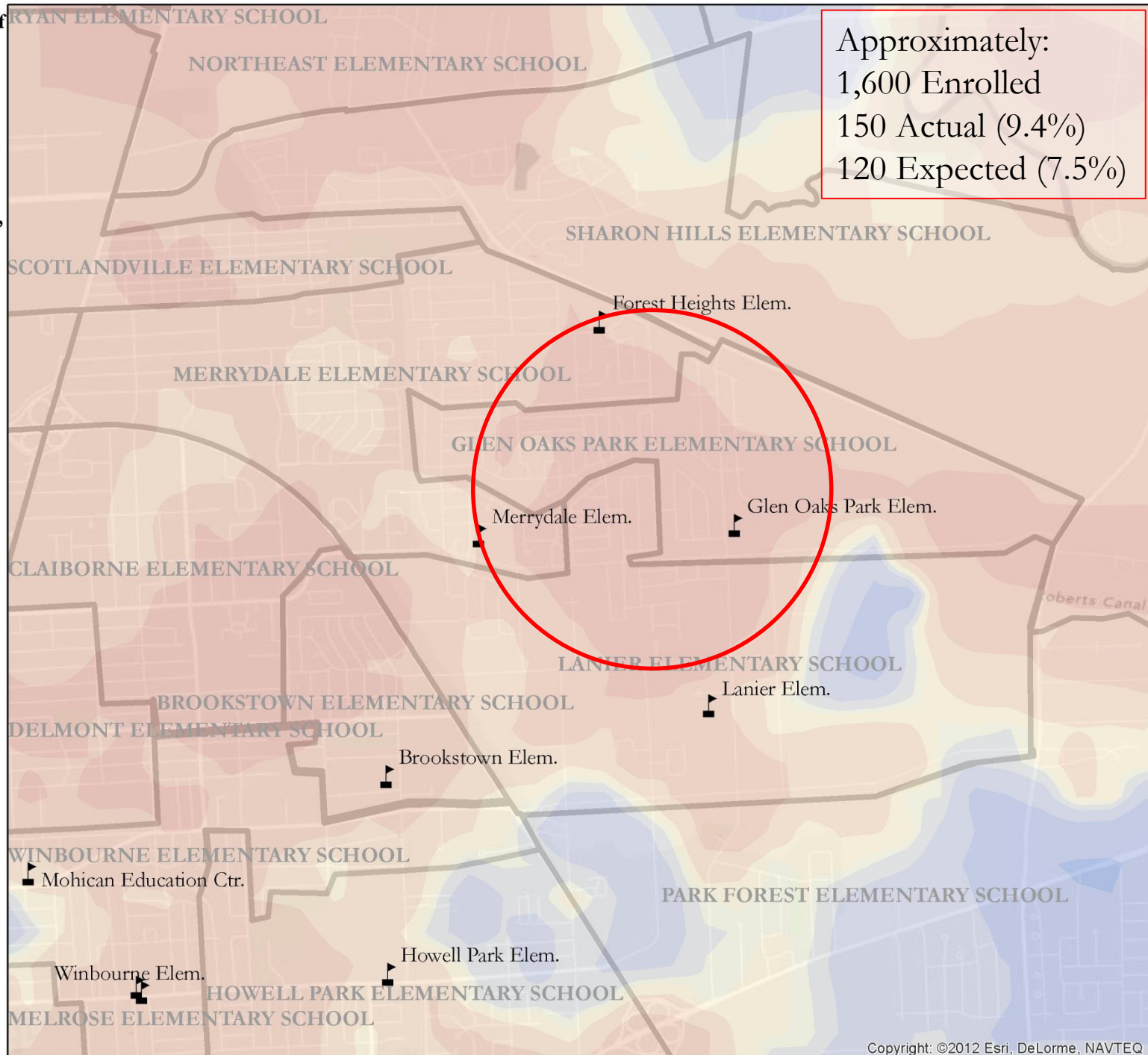
Prescription Data:
Medicaid CY2011

Enrollment Locations:
April 2012 MEDS Eligibility

Boundaries:
U.S. Bureau of Census,
2010 Tracts

Basemap:
Esri, DeLorme, Navteq

0.07515 0.3 Miles



Approximately:
1,600 Enrolled
150 Actual (9.4%)
120 Expected (7.5%)

**Louisiana Department of
Health and Hospitals,
Vicinity of
N. Baton Rouge, LA**

**Population:
Medicaid Enrolled,
Under Age 11,
Age at First ADHD Rx,**

Prescriber	Count	Min	Max	Avg	SD
Prescriber 1	16	4.6	11.3	6.3	1.5
Prescriber 2	7	5.8	9.0	7.5	1.1
Prescriber 3	7	4.6	6.8	5.8	1.0
Prescriber 4	5	5	7.5	6.4	1.1
Prescriber 5	5	7.2	9.9	8.9	1.3
Prescriber 6-57	110	4.1	10.2	7.1	0.5

Avg. Age at First Rx = 6.9



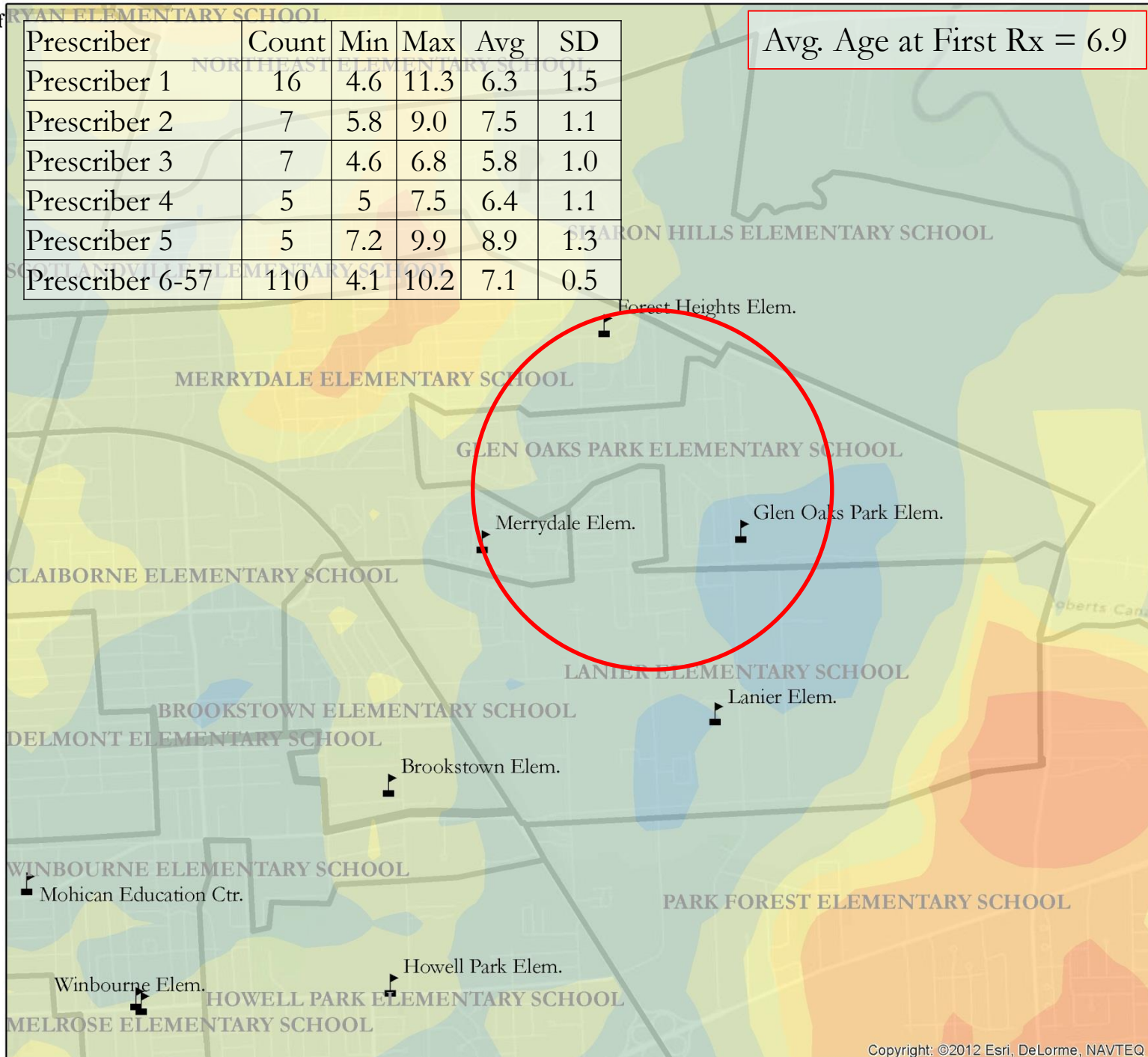
Prescription Data:
Medicaid CY2013

Enrollment Locations:
CY2013 MEDS Eligibility

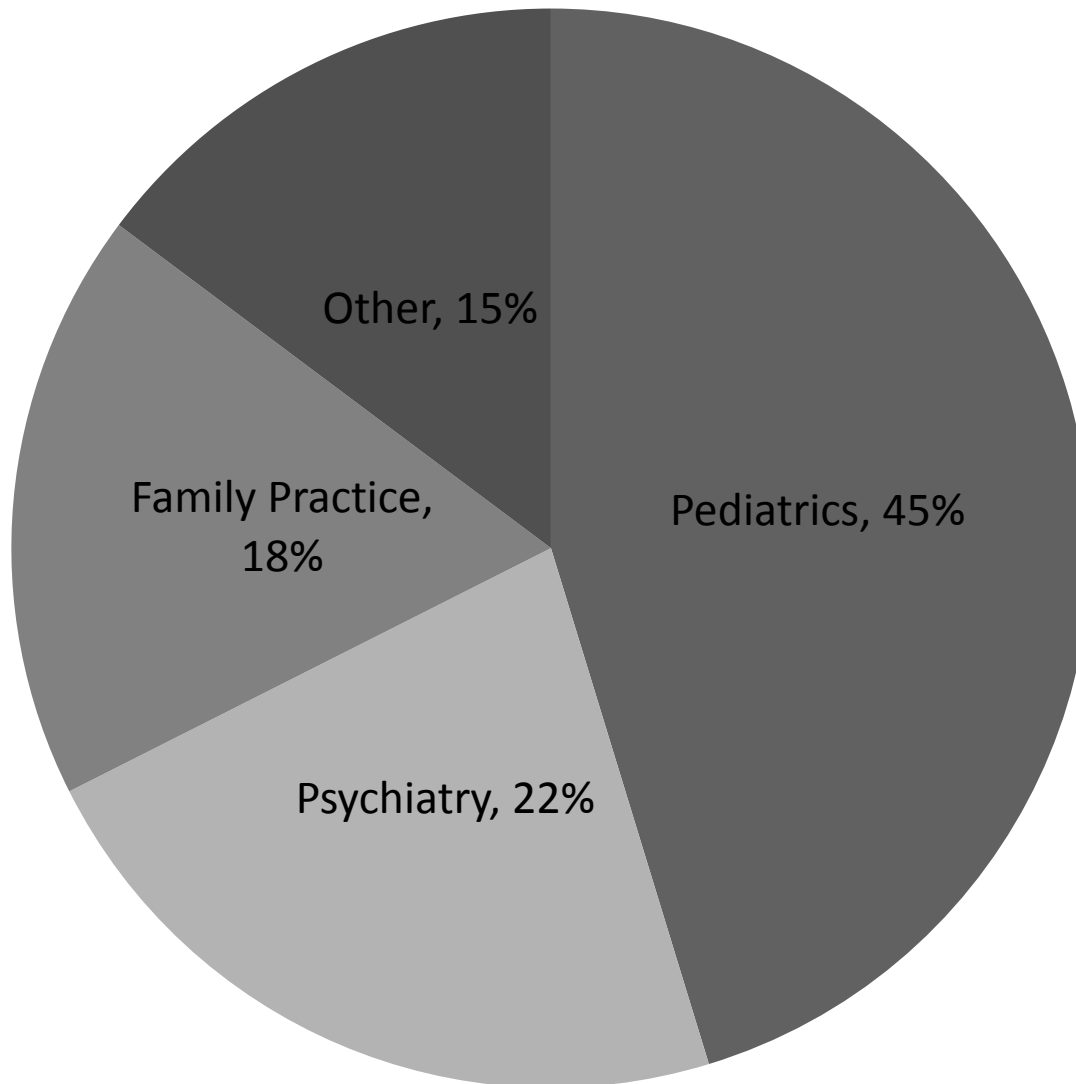
Boundaries:
U.S. Bureau of Census,
2010 Tracts

Basemap:
Esri, DeLorme, Navteq

0.07515 0.3 Miles



Prescriber Types?



Source: MDW, Medicaid ADHD Rx (by Dosage Days Supplied and specialty/subspecialty) from 1/1/12 through 7/31/14

Summary

- Louisiana Medicaid/Bayou Health vs. Express Script's sample:
 - Both samples indicate that ADHD Rx prescriptions are rising.
 - ES sample: privately insured rates are high as well.
 - Medicaid ADHD Rx rates among 12-18 are not higher than 4-11 year olds in LA, unlike ES sample.
- Rates for some cohorts are much higher than others.
- Geographic disparity in Medicaid ADHD Rx rates pronounced (Region 5, I-10/12 Parishes) and cannot be fully explained by demographic variations (assuming those factor in), attendance zones, or attributed to one or few prescribers.
- Top 10% of prescribers in terms of "days supply prescribed":
 - Comprised of 1,104 Prescribers
 - Responsible for 78% of supply statewide , CY2011
- Further analysis:
 - Network Adequacy
 - How many receiving ADHD Rx received behavioral therapy?
 - How many receiving ADHD Rx were diagnosed with ADHD, Autism?
 - Link to school data

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